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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/011,167 10/05/98 GEUZE

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EXAMINER

DECLoux, A

ART UNIT	PAPER NUMBER
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1644

16

DATE MAILED:

01/17/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/011,167

Applicant(s)  
Gueze And Meller

Examiner  
DeCloux, Amy

Group Art Unit  
1644



☒ Responsive to communication(s) filed on mailed on 10-27-00

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 2-4, 6, and 9-13 is/are pending in the application.

Of the above, claim(s) 9-12 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 2-4, 6, and 13 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☒ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

### DETAILED ACTION

1. Applicant's amendment, mailed 10-27-00 (Paper No. 15), is acknowledged. Claims 2-4, 6 and 9-13 are pending, Claims 9-12 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b) as being drawn to a nonelected invention. Claims 2-4, 6 and 13 are presently under consideration.
2. A substitute specification is required because the numerous entries directed by Applicant's amendment, mailed 10-27-00 (Paper No. 15), to be amended in the specification. The substitute specification filed must be accompanied by a statement that it contains no new matter. Such statement must be a verified statement if made by a person not registered to practice before the Office. ✓
3. In addition, the substitute specification mailed 10-27-00 (Paper No. 14), has not been entered because it does not conform to 37 CFR 1.125(b) because: there is no statement of new matter and because there is no marked up copy of the original specification provided. Therefore, the objection to the specification has been maintained. ✓
4. The rejections of record can be found in the previous Office Action mailed 8-14-00 (Paper No. 13). In view of applicant's amendment mailed 10-27-00 (Paper No. 15), the 102 (e) rejection, the Walden 102(b) rejection, and the Harding 102(b) rejection have been withdrawn.
5. Though applicant's arguments and amendments in their amendment mailed 10-27-00 (Paper No. 15), have been carefully considered, the 112 first rejection is maintained essentially for the reasons of record and is repeated below for applicant's convenience. Applicants traverse the rejection on the grounds that the methods of differential centrifugation and sucrose gradients were well known at the time of the priority date of the applicant's invention with which the examiner agrees. The examiner also agrees with applicant that it was well known at the time of the priority date of the applicant's invention, that techniques for specifically obtaining Golgi or ER enriched fractions which contain MHC Class I proteins, were also well known. The examiner also agrees that the instant specification have described methods of differential centrifugation and isolation of subcellular fractions over sucrose gradients, but the examiner notes that the examples of an antigen presenting vesicle in the instant specification asserted by applicant all refer to the isolation of MIIC and exosomes, and not subcellular fractions which are not vesicles. Further, though said MIIC and exosome vesicles were known to contain MHC Class II as disclosed in the instant specification and as was well known in the art at the time of the invention, neither the applicant's specification nor the art at the time the invention was made, taught or disclosed that the vesicles of exosomes or MIIC contain class I proteins as evidenced by Zitvogel et al (Nature Medicine 4(5):594-600, May 1998. Zitvogel et al teach that it

was surprising that human monocyte derived multivesicular MIIcs contain abundant MHC class I molecules and further that multilamellar MIIcs did not contain MHC Class I proteins(see entire article, especially page 594, column 2). Zitvogel et al further teach that it was unexpected that multivesicular late endosomes and exosomes in dendritic cells bear MHC Class I molecules( see entire article, especially page 598, column 2, middle paragraph). In the virtual absence of guidance from the instant specification of which vesicles contain class I proteins at the time the invention was made, and in the absence of a working definition of vesicle in the instant specification, it would require an undue amount of experimentation on the part of one skilled in the art to use the claimed polypeptide for the asserted utilities. Furthermore Zitvogel et al teach that the potential advantages of exosomes in immunotherapy is due to its high levels of peptide bound MHC Class I and Class II molecules (see last paragraph of article) and the efficacy of the claimed vesicles with only class I and not class II molecules in immunotherapy is not clear.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 2-4, 6 and 13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

There is insufficient guidance in the instant specification and in the prior art for an antigen presenting vesicle free from its natural surroundings obtainable from an antigen presenting cell comprising a membrane and an MHC Class I protein or fragment thereof, as recited in claim 13, and its dependent claims 2-4 and 6, though the specification, is enabling for an antigen presenting vesicle free from its natural surroundings obtainable from an antigen presenting cell comprising a membrane and an MHC class II protein or fragment thereof. As evidenced by Figure 1 in Delves et al., (Molecular Medicine Today, 3(2):55-60, 1997), it is well known in the art that MHC Class I and Class II antigen presentation follow distinct, compartmentalized pathways, and that Class II bind antigens in endosomes or specialized loading compartments that are distinct from Class I molecules. Therefore, it is not clear from the instant specification that it is possible to isolate exosomes comprising class I (as opposed to class II) molecules from the supernatant of antigen presenting cells as taught by the specification.

Based upon the paucity of information contained within the instant specification in this regard, it would require an undue amount of experimentation on the part of one skilled in the art to use the claimed polypeptide for the asserted utilities.

In view of the quantity of experimentation necessary to use the claimed invention, the lack of working examples, the unpredictability of the art, the lack of sufficient guidance in the specification, it would require an undue amount of experimentation on the part of one skilled in the art to use the claimed methods for the asserted utilities, and this is not sanctioned by the statute.

8. Though applicant's arguments and amendments in their amendment mailed 10-27-00 (Paper No. 15), have been carefully considered, the Amigorena 102(b) rejection is maintained essentially for the reasons of record and is repeated below for applicant's convenience. Applicants traverse the rejection on the grounds that this reference does not teach or suggest antigen presenting vesicles comprising a membrane and an MHC Class I protein. However, in view of the post filing date teachings of Zitvogel et al that the class II containing MHC vesicles also contain Class I proteins (see section 5 of this office action), the claimed functional limitations of said vesicles containing Class I proteins would be inherent properties of the referenced vesicles.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 13, 2, 3, 4 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Amigorena et al (Nature, 369:113-120, 1994).

Amigorena et al teach the subcellular fractionation of a B cell line to produce fractions containing membrane vesicles with MHC Class II molecules (see entire article; especially page 114, column 2, last paragraph), which contained processed peptide (see entire article, especially page 118, first paragraph of the Discussion Section). Therefore, the referenced teachings anticipate the claimed references. The open language of "comprising" is noted in claim 13.

*Claim 3 - vesicle has been in prior art of class II*  
*Claim 3*

11. In view of applicant's amendment mailed 10-27-00 (Paper No. 15), a new 112 second paragraph rejection and a new 112 first paragraph rejection is applied to claim 13 and dependent claims 2-4 and 6.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the Applicant regards as his invention.

13. Claim 6 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 6 recites the limitation "said antigen presenting cell" in reference to the cell recited in claim 13. There is insufficient antecedent basis for this limitation in the claim 13.

14. Claim 13 and dependent claims 2-4 and 6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the specification or claims as originally filed for the recitation of " wherein said antigen presenting vesicle is obtainable from a cell." (Underline added) as recited by the instant claims. There appears to be support for the recitation of an antigen presenting cell as originally filed. There is no written description of the claimed invention in the specification or claims as originally filed. Thus the claimed invention constitutes **new matter**.

15. No claim is allowed.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. This application contains claims 9-12 drawn to an invention nonelected with traverse in Paper No. 12, mailed 6-27-2000. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy DeCloux whose telephone number is (703) 306-5821. The examiner can normally be reached Monday through Friday from 9:00 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

Amy DeCloux, Ph.D. Patent Examiner,  
Group 1640, Technology Center 1600  
January 16, 2001

*David A. Saunders*  
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PRIMARY EXAMINER  
ART UNIT 182/644